Mr. Michael T. Davis Algebra II Delta & Eta	Division of Exponential Expressions January 7-8, 2015

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Simplify each expression. Give each answer without any negative exponents.

$\frac{5^9}{5^2} = \frac{5\cdot5\cdot5\cdot5\cdot5\cdot5\cdot5\cdot5\cdot5}{5\cdot5} = 5^{9-2} = 5^7$

$\frac{2^4}{2^3} = 2^1 = 2$

$\frac{5^2 5^3}{5^3 5^2} = \frac{5^5}{5^5} = 1$

$\frac{a^{14}}{a^6} = a^8$

$\frac{x^5}{x^2} = x^3$

$\frac{x^5 y^6 z}{x y^2 z^3} = \frac{x^4 y^4}{z^2}$

$\frac{b^4}{b^9} = \frac{1}{b^5}$

$\frac{z^{10}}{z^5} = z^5$

$\frac{a^2 b}{a^4 b^3} = \frac{1}{a^2 b^2}$

$\frac{x^3 y^2}{x y^4} = \frac{x^2}{y^2}$

$\frac{x^3 y^3 z}{z^5 x^2 y} = \frac{x y^2}{z^4}$

$\frac{x}{y^2}\left(\frac{3x^4}{y^2}\right) = \frac{x^1 \cdot 3x^4}{y^2 \cdot y^2} = \frac{3x^5}{y^4}$

$\frac{m n^2}{m^3 n} = \frac{n}{m^2}$

$\frac{x^2 y z^4}{x y^4 z^3} = \frac{xz}{y^3}$

$\frac{m^2}{m^4} = \frac{1}{m^2}$

$\frac{3s^9}{6s^{11}} = \frac{1}{2s^2}$

$\frac{x^{13} y^2}{x^{13} y} = y$

$\frac{3^2 m^3 t^6}{3^5 m^7 t^5} = \frac{t}{3^3 m^4} = \frac{t}{27 m^4}$